

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Sept. 20, 1914

Dear Sir:

When you need fine Emeralds do not forget that we carry a line of these gems besides every other kind of stone excepting only diamonds.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W.D. Rothschild*  
President.

BUY FROM THE CUTTERS

**American Gem & Pearl Co.**

14 CHURCH ST. NEW YORK  
Corner Cortlandt St.

London, 14 Holborn Viaduct    Paris, 39 Rue de Chateaudun

1c. Paid  
New York, N. Y.  
Permit No. 569



BANDED OR LAYER AGATE

## MOSS AGATE

Moss agates, sometimes called Indian agates, display green hair or fibre like tracings, and are often colored red—they are found in India, China and the United States.

## CARNELIAN

Carnelian or cornelian (like horn) is a variety of chalcedony varying in color from pure white, yellow, gray, grayish red, brown, reddish brown and pink, to the typical deep flesh red.

Brownish red and dark brown carnelian is called sardoine or sard; the blood red to pink color with layers of white onyx is called carnelian onyx, and the brown or sard stones with layers of white onyx is called sardonyx.

The finest sard is orange brown in color, which becomes a fine red by transmitted light.

The color of carnelian is often enhanced and deepened by exposure to the sun's rays and subsequent heating in earthen pots.

Intaglios are generally engraved on sard—and this stone is also employed for a raised or cameo engraving in a bowl or depression of the stone—this variety of engraving is called chevée.

Brazil and Uruguay are the most important present sources of supply of rough carnelian.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Oct. 5, 1914

Dear Sir:

Star rubies and sapphires are the "vogue". We have them in all sizes imported direct from India—our prices are reasonable.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*

President.

BUY FROM THE CUTTERS

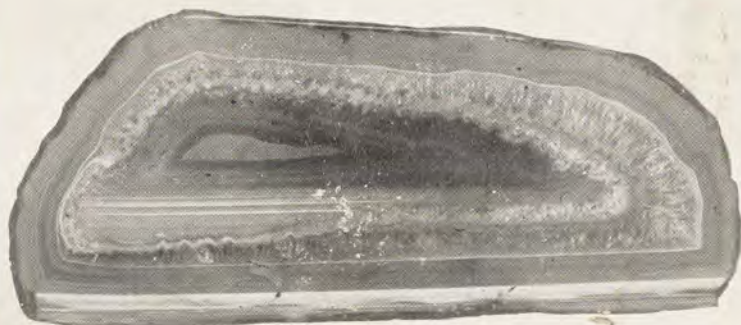
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AGATE

## AGATE

Agate, named after the river Achates in Sicily, where it was found in ancient days, is one of the most important of the chalcedony group. This variety of quartz is built of layers or bands—some of them concentric, waving or zig-zag, and others nearly straight. While the width of the bands is usually the same throughout the course, they are often extremely narrow, in fact it is stated that some agates have 17,000 definitely marked bands to the inch.

Banded or riband agate (onyx), eye agate and fortification or ruin agate comprise the agates which interest the lapidary.

## ONYX (BANDED OR RIBAND AGATE)

Onyx is a variety of agate (chalcedony) having bands or layers of either black, brown or red, alternating with bands of white.

Stones having black and white bands are called onyx—those having red and white bands are called carnelian onyx, and the brown and white stones are called sardonyx.

The best specimens have the layers or planes very even and well defined, and these are the stones used for cameos; one color (usually the white) serving for the engraving and the other color for the base or background.

Agates are porous and stones are often artificially colored black or deepened in color by boiling in honey or sugar water and then in sulphuric acid.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Aug. 20, 1914

Dear Sir:

Black Onyx in Calibre  
shape is still in great demand.  
We do perfect cutting for special  
orders.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*  
President.

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STONE GRINDING MILL, NEAR IDAR, GERMANY

## CHALCEDONY

Some confusion exists among writers on precious stones in grouping the various kinds of cryptocrystalline quartz in their relation to chalcedony or to jasper.

There is mineralogically no essential difference between these two varieties of quartz, but lapidaries generally place the translucent and sub-translucent kinds under chalcedony, and the opaque kinds under jasper.

Chalcedony therefore includes banded agate, fortification agate, moss agate, tree agate (Mocha stone), carnelian or cornelian, chrysoprase, spotted chalcedony, heliotrope or bloodstone, onyx, sardonyx, plasma and sard; while jasper includes Egyptian jasper, riband jasper, Texas agate, etc.

Beekite or silicified coral or shells, and agatized or silicified wood, may properly be treated in connection with these quartz groups.

## MOCHA STONE OR TREE AGATE

This is a whitish or gray chalcedony, sometimes called dendritic agate or moss agate, which is covered with brown, red or black figures produced by manganese oxide, resembling plants or trees.

These stones were first found in the neighborhood of Mocha, in Arabia, but later have come from India, and many fine stones are found in our Western States.

Artificial tree agates have been produced in Germany by etching figures on chalcedony—in fact these stones have been so perfectly etched as to deceive experts.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Sept. 5, 1914

Dear Sir:

The general European war is certain to cause a scarcity in all kinds of precious stone as most lapidaries have been called to the colors.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*

President.

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GRINDING AGATES, GERMANY

## CHRYSTOPRASE

Chrysoprase is a very fine grained apple green, olive, or whitish green translucent chalcedony, which generally becomes paler on exposure to light and heat—the color being due to the presence of oxide of nickel; when faded the color can sometimes be restored by immersion in a solution of nickel sulphate.

Artificial chrysoprase is produced by placing chalcedony in a green solution of nickel salt, the result being fine uniform colored chrysoprase which can hardly be distinguished from the genuine stone, and which has the advantage of being unaffected by light and heat.

Chrysoprase has a specific gravity of 2.56 and readily scratches glass.

It is found in Silesia, India and Siberia, but some of the best material produced in recent years has come from the United States.

## PLASMA

Plasma is a rich green to pale green and white sub-translucent chalcedony, sometimes dotted with white or yellow spots—very much like jasper and somewhat lighter than heliotrope—this stone is found in India, China, Egypt and Germany and has but little commercial value.

## HELIOTROPE OR BLOODSTONE

This is essentially the same stone as plasma, but is usually dark green in color and covered with small blood red spots of jasper, hence its name bloodstone.

This has always been a popular stone for seals and signets, and it has often been employed for fine cameos and intaglios.

The rough stones are found in India, China, Scotland, Brazil, the United States and other countries.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, July 5, 1914

Dear Sir:

Pink Amethyst from our North Carolina and Virginia Mines as well as from Brazil are very effective.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*  
President.

BUY FROM THE CUTTERS

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PROSPECTING IN AMETHYST MINE IN NELSON COUNTY, VA., U. S. A.  
PROPERTY OF AMERICAN GEM & PEARL COMPANY

## AMETHYST (CONTINUED)

Beautiful amethysts are obtained in the Ural Mountains, and although many of these stones are patchy in color, necessitating a thick style of cutting which is not suitable for modern jewelry, some very fine specimens are found and sold as "Siberian" amethysts.

The variety known as "Uruguay" amethyst is, however, more often improperly sold as "Siberian" amethyst, although there is no good reason why this should be done. Some fine amethyst pebbles are found in the gem-bearing gravels of Ceylon, but these stones are not plentiful enough to have commercial importance.

Fine reddish purple and pink amethyst has been found in North Carolina and Virginia, some of which is equal to best Uralian or Uruguay specimens. Crystals of a dark, imperfect bluish purple amethyst come from Auvergne, but this material is only suitable for cutting very small stones. "Oriental" amethyst is purple corundum or sapphire, and as these stones are rarely found having a distinct purple color, they have but little commercial importance. They are much harder and heavier than the quartz amethyst.

Other violet stones are almandine garnets, spinels and fluor spar.

Almandines are very much heavier, somewhat harder and are not dichroic. Spinel is heavier and much harder, lack dichroism and are very rare in this color.

Violet fluor spar or false amethyst is indeed very much like amethyst in appearance, but is heavier and very much softer than amethyst; it is but 4. in hardness and can therefore be readily scratched with window glass.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, July 20, 1914

Dear Sir:

Some Siberian Amethyst though somewhat heavy in form are extremely brilliant and beautiful—we have both specimen and fine stones.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. D. Rothschild*  
President.

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## QUARTZ-CATSEYE

**Hungarian Catseye, Quartz Catseye and Occidental Catseye** are the various names applied to a translucent greenish or greenish-gray quartz, with fibers of asbestos running through it. When properly cut, this stone somewhat resembles the true cymophane or chrysoberyl catseye, but the chatoyant line always lacks the brilliancy and sharpness of the true catseye.

While extensively known and sold as "Hungarian" Catseyes, no stones suitable for cutting are found in Hungary.

Ceylon is the chief source of these catseyes, although some are found in Bavaria and in the Harz Mountains. Oriental Catseyes, or Cymophanes as they are sometimes called, are much heavier and harder than the quartz variety.

Tiger-eye is sometimes treated with acid, and then has the appearance of the quartz catseye.

## TIGER-EYE

Early in the eighties, a beautiful yellowish-brown chatoyant quartz was found in Griqualand West, South Africa, and for some years this material was cut cabochon and sold by the carat under the name of crocidolite.

Large quantities of crocidolite were soon thrown on the market, and it was then used for the same general purposes as agates and onyx. Cameos, intaglios, umbrella handles, paper cutters—in short, all those articles which are made of agate and sold in curio shops in watering places were reproduced in this new and attractive quartz.

The name was changed to tiger-eye, although it is still often called crocidolite, as the mineral which produces the chatoyant effect is a variety of asbestos known as crocidolite, hence its original name.

Tiger-eye can be dyed like agate, and its yellow color can be changed by acid to look like the occidental or quartz catseye.

## SAPPHIRINE QUARTZ

Siderite, sapphire quartz or sapphirine quartz is a translucent blue to pale grayish-blue quartz, found principally at Golling, in Salzburg.

This stone, as well as the asteriated or star quartz, is of slight importance commercially, as it is seldom found.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, June 5, 1914

Dear Sir:

Precious white Topaz is harder and more brilliant than Rock Crystal—we are cutting this material into faceted and other shapes.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. S. Rothschild*  
President.

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MODERN GERMAN LAPIDARY SHOP

## TOPAZ

Occidental topaz, golden topaz, Bohemian topaz, Spanish topaz, Madeira topaz, Indian topaz, Saxon topaz and False topaz are different names for yellow quartz, generally embraced under the name of citrine.

This variety of quartz, while found in its natural state, is often produced by heating or "burning" amethyst or smoky quartz, which readily turns yellow under a certain amount of heat.

Topaz varies in color from golden yellow to the darker brownish and reddish yellows generally known as Spanish or Madeira topaz.

Oriental topaz or yellow sapphires are readily distinguishable from quartz topaz by their superior hardness and weight. Precious or true topaz is harder and considerably heavier than quartz topaz. Yellow or golden beryl is harder and somewhat heavier than quartz topaz. A final and conclusive test is hydrofluoric acid which readily etches quartz topaz but does not effect either the Oriental or precious varieties or golden beryl.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, June 20, 1914

Dear Sir:

Our fine cutting brings  
out the beauty of an Amethyst—we  
have some European cut stones  
also.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. D. Rothschild*  
President.

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ROSE QUARTZ MINE, MESA GRANDE, CAL.

## ROSE QUARTZ

This stone is usually found in large fractured masses, shading from pale pink to a fine rose pink.

Transparent pieces of good pink color are rare, most of the material running translucent to sub-translucent and opaque.

The color of rose quartz, which is supposed to be due to titanium, is liable to become paler on exposure to strong sunlight.

The finer specimens of rose quartz are much sought after for jewelry, while the inferior material is worked up into useful or ornamental objects and sometimes employed in connection with objects of art.

The best rose quartz is found in the United States; some deep pink stones have been found in Madagascar, while Bavaria and the Urals are also credited with producing this stone.

## RAINBOW QUARTZ, MILKY QUARTZ, PRASE

Rainbow quartz is rock crystal with innumerable irregular cracks containing films of air which show iridescent or rainbow colors.

This effect is often produced by heating quartz and immersing it in cold water, thus developing the cracks and occasionally such stones are dyed purple, green, etc.

Milky quartz is an opalescent white quartz nearly opaque with a hazy milky appearance. Prase, sometimes called Mother of Emerald, is leek or muddy olive green, translucent and rarely used except for mosaic work.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, May 5, 1914

Dear Sir:

When you have special calls for fine or medium grade Emeralds and Rubies let us hear from you.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*  
President.

BUY FROM THE CUTTERS

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ROCK CRYSTAL INTAGLIO "CUPID AND PSYCHE"

## ROCK CRYSTAL

Colorless transparent quartz is known as rock crystal, and because of its purity it is often used for spectacle lenses. Stones cut from rock crystal to imitate diamonds have been sold under many names, such as Arkansas, Lake George, Alencon, Dauphine, Paphos, Bohemian, Cornish, Irish, Bristol, etc., diamonds—sometimes simply as Occidental diamonds. Rock crystal is, of course, easily distinguishable from the diamond by its inferior hardness, its lesser density (diamond, 3.50-3.60; rock crystal, 2.65), and lastly but conclusively by the hydrofluoric acid test. A drop of this acid applied to a diamond will not affect it at all, but applied to rock crystal will etch it immediately and, if allowed to remain, will eat into the stone. Formerly rock crystal was used for fashioning small articles such as fancy seals, bowls, paper weights, etc., and beautiful objects were engraved by artists, whose skill and good taste is evidenced by many wonderful rock crystal carvings in great art collections.

Rock crystal, with enclosures of rutile, green hornblende, and actinolite or asbestos, are sometimes very interesting in appearance and are often employed as odd gem stones. These stones are commercially classified under the general name of sagenite or rutilated quartz, and are either perfectly colorless and transparent or have a slightly stained appearance, which, however, is largely due to their fine needle-like enclosures. Various names, as Venus hair stone, Thetis hair stone, Cupid's darts (*fleches d'amour*), are used to indicate this variety of quartz.

Rock crystal is found in various parts of the world, particularly in Switzerland, France, Hungary, Brazil, Madagascar, Japan and the United States. Some of the finest material, suitable for cutting the large perfect balls for crystal gazing, comes from Brazil, while much of the commercial material is found in Switzerland.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, May 20, 1914

Dear Sir:

Rock Crystal or colorless Quarts both plain and engraved is now being largely used in fine jewelry.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W.D. Rothschild*  
President.

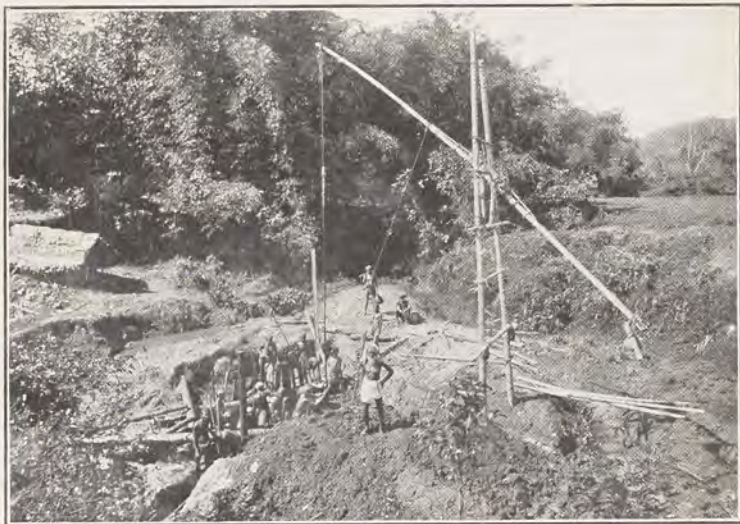
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GEM PIT, RATNAPURA, CEYLON

## AMETHYST

The most beautiful and probably the most important member of the quartz family is the amethyst, varying in color from royal purple to the lightest shades of purple, and from brownish pink to light pink and lilac.

This stone was in great demand among Greek and Roman toppers, because of the belief that the wearing of one would permit indulgence but prevent drunkenness. Amethyst was also credited with the power to expel poison, make its wearer expert in business affairs and victorious in chase and battle. While the vogue of the amethyst has risen and waned in the past forty years, there has never been a period during that time when this beautiful stone has not been sought for by those who appreciate jewels for their artistic value. Under the dichroscope two images are generally seen in the dark colored amethysts—one reddish and one bluish purple.

Amethyst will not stand high temperature, as it loses its color and turns yellow; in fact, many of the quartz topaz are produced by "burning" amethyst.

Most of the amethyst comes from Brazil and Uruguay, the commercial designation for the medium grades being Brazilian amethyst, while the rich dark-purple stones are known as Uruguay amethyst.

Copr. by American Gem & Pearl Co.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, April 5, 1914

Dear Sir:

We are specialists in so called semi-precious stones and can furnish nearly every variety from stock or cut from the rough.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W. S. Rothschild*  
President.

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CEYLON GEM CUTTER

## SPHENE

Sphene or Titanite seems to have been unknown to the earlier writers on precious stones and even some of the recent German authorities show a lack of information in regard to this beautiful gem, as they speak of it as an inferior soft stone which has therefore but little value and is sometimes mixed with chrysolites, chrysoberyls, etc., by unscrupulous dealers.

Good specimens of sphene are extremely rare and when found command prices equal to the finest olivines. Gem sphenes have been sold at prices approximating rubies and sapphires of the same sizes. Sphene or Titanite is silicate of titanium and lime as follows:

Silicia .....	31.
Titanium dioxide .....	41.
Lime .....	27.
Ferrous oxide .....	1.
<b>Total .....</b>	<b>100.</b>

Sphenes are brittle and soft, hence they are not so suitable for rings as for scarf pins, brooches and necklaces—the hardness being but 5. to 5.5.

They are highly doubly refractive and have the specific gravity of 3.40-3.56.

Their lustre is adamantine to resinous and the darker stones display a vivid dichroism.

While the names seem to be interchangeable the transparent gem variety of this mineral is generally known as sphene and the opaque variety as titanite.

The yellow and reddish yellow colors are the ones most sought after, as they often show the play of the fire opal. Good cutting crystals have been found in Switzerland and the United States and there are many other localities where titanite is found.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, April 20, 1914

Dear Sir:

Sapphires in important sizes and of good quality are steadily advancing in price. We have some interesting stones for sale imported under the old rate of duty.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W.D. Rothschild*  
President.

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ROCK CRYSTAL GROUP

## QUARTZ

The quartz group is one of the largest and most diversified among precious stones. Quartz occurs in phenocrystalline or distinctly crystallized form; and cryptocrystalline or flint-like and massive variety where the crystals, though existing, are not distinguishable by the naked eye. This group is one of the simplest in composition among gem stones, being pure silica or silicon 46.7, oxygen 53.3.

Quartz crystallizes in the hexagonal system, has no distinct cleavage, fractures like glass and is 7 in Moh's scale of hardness, being harder than some garnets, harder than opal, moonstone and turquoise, and as hard as peridot and kunzite.

The specific gravity of pure quartz, such as rock crystal, amethyst, etc., is 2.65 to 2.66, and when melted to a glass by the oxyhydrogen blow-pipe the specific gravity falls to 2.2 and the hardness to 5. The pleochroism of deep colored transparent quartz is quite distinct.

Quartz is easily electrified by rubbing, quickly etched by hydrofluoric acid, and completely destroyed by that acid if immersed in it for some time. The word quartz is supposed to be of German provincial origin, and the ancients believed that clear, colorless quartz was formed by the petrification of water.

The phenocrystalline or vitreous variety consists of: Rock crystal, amethyst, citrine or topaz, smoky quartz or cairngorm, rose quartz, catseye, tiger-eye, sagenite or rutilated quartz, siderite or sapphire quartz, prase milky quartz, aventurine, and asteriated or star quartz.

The cryptocrystalline or massive variety consists of: chalcedony, mocha stone or tree agate, moss agate, spotted chalcedony, carnelian, chrysophase, plasma, bloodstone or heliotrope, jaspis, agate jasper, silicified wood, Egyptian jasper, porcelain jasper, ribbon jasper, green, blue and yellow jasper, agate, banded agate, fortification agate, onyx, sard, sard-onyx, beekite and hornstone.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Nov. 5th, 1913

Dear Sir:

Calibre cut Olivines (green garnets) are as effective as emeralds and very much cheaper—they are somewhat too soft for rings but just the stones for bapins and brooches—let us submit some.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W.D. Roetschild*

President.

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## GARNET (CONTINUED)

### E. ANDRADITE

Andradite or iron garnet, which includes demantoid, topazolite and black garnet, named after the Portuguese mineralogist d'Andrada; is interesting to the jeweler principally because of the wonderful green variety found besides the Bobrovka stream in the Sissersk district on the western side of the Ural Mountains.

This garnet, sometimes called Uralian emerald, is mineralogically known as demantoid because of its adamantine or diamond lustre, but is universally called olivine by the trade.

True olivine or chrysolite is on the other hand generally known as peridot and occasionally as chrysolite where the color is very light and has a yellowish tinge.

The confusion of these names is so deeply rooted that most dealers, and even some eminent writers on gems do not seem to realize that the stone commercially called olivine is a soft green garnet while the mineralogically true olivine is always bought and sold as peridot or chrysolite.

Demantoid (olivine garnet) varies in color from a deep olive tinted emerald green to brownish or yellowish green. The emerald green variety contains a small amount of chromium.

Demantoid is composed of:	{	Silica.....	35.5
		Iron sesquioxide.....	31.5
		Lime.....	33.
			100

Specific gravity:	-	3.83 to 3.85
Hardness	-	6. to 6½
Refraction	-	1.89

Although the softest of the garnet family these stones are highly refractive and increase in brilliancy and beauty under artificial light.

Fine dark green demantoids while not very plentiful in small sizes are rarely found large enough to cut stones weighing as much as one carat.

The topazolite or yellow variety is seldom found large or clear enough to cut as a gem.

### F. UVAROVITE

Uvarovite, Ouvarovite or calcium chromium garnet is a hard emerald green garnet of great beauty. Named after the Russian minister Count Uvarof. This variety of garnet is however so rare and the known clear specimens so small, that it does not possess commercial interest for the trade.

Uvarovite is composed of:	Silica	35.9
	Chromium sesquioxide	30.6
	Lime	33.5
		100.

Specific gravity:	-	3.41 to 3.52
Hardness	-	7.5 to 8.

Uvarovite is found in the Urals, in the western Himalayas, in Silesia and in the Pyrenees.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, March 5, 1914

Dear Sir:

Try us on Aquamarines--  
our stones are all cut in our New  
York lapidary shop and prices are  
reasonable.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W.D. Rothschild*

President.

BUY FROM THE CUTTERS

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## AQUAMARINE

The illustration gives some idea of a few of the effective shapes in which we cut aquamarine.

This beautiful delicate blue, and greenish blue stone, whose brilliancy is greatly enhanced by artificial light, justly ranks as the most popular of the so-called semi-precious gems.

The hardness of this stone is 7.5 to 8, and its moderate price and adaptability make it thoroughly practical for every kind of jewelry.

We can cut special stones from the rough.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Dec. 5th, 1912

Dear Sirs:-

We are specialists in Black Opals which we cut from rough imported from the famous Lightning Ridge deposit in Australia. These stones are not more expensive than white opals of like quality.

Yours very truly,  
AMERICAN GEM & PEARL COMPANY,

*W.D. Rothschild*

Pres.

BUY FROM THE CUTTERS

**American Gem & Pearl Co.**

14 CHURCH ST., NEW YORK  
Corner Cortlandt St.

London, 14 Holborn Viaduct    Paris, 39 Rue de Chateaudun

1c. Paid  
New York, N. Y.  
Permit No. 569



## CORUNDUM.

This many colored mineral, composed of nearly pure alumina, produces gems which in some cases are more valuable even than diamonds. The ruby, sapphire, Oriental emerald, Oriental topaz, Oriental amethyst, Oriental aquamarine, Oriental chrysolite, Oriental hyacinth, star ruby, star sapphire, star topaz, and ruby and sapphire cat's eye are all corundums of different colors. The ruby is a red sapphire, and the Oriental topaz a yellow sapphire, while the Oriental emerald is a green sapphire, etc., etc.

In hardness corundum ranks next to the diamond being No. 9 in Moh's scale.

The specific gravity is 3.9 to 4.1, the crystallization rhombohedral, and cleavage basal, the crystals breaking across the prism with nearly a flat surface.

In lustre, the corundum is vitreous, its refraction double but not to a high degree, and it is susceptible of electricity by friction, which the polished specimens especially retain for a considerable time.

Corundum is pleochroic in the deeply colored varieties but dichroism is difficult to see in the paler colors.

Corundum is not acted upon by acids and is infusible alone, but in combination with a flux it melts with difficulty into a clear glass.

Precious corundum consists of over 90% alumina with small quantities of silica and chromic, ferric or titanitic oxides.

Thus it will be seen that corundum is composed almost wholly of alumina, —one of the constituents of common clay, which, when colored by traces of metallic oxides, produces a greater variety of precious stones of a high rank than any other mineral.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Dec. 20, 1912

Dear Sir:

The safe method to pursue  
in buying rubies and sapphires is  
to deal exclusively with responsible  
gem merchants who thoroughly  
understand these stones.

Yours very truly,  
AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*

Pres.

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# RUBY

(1)



NATIVE INDIAN RUBY CUTTER AT WORK.

The red sapphire or ruby is the most valuable of the corundum family, and when found of a good color, pure and brilliant, and in sizes of one carat and larger, is often more valuable than a fine diamond of the same size.

Fine rubies larger than two carats are very rare, and when a fine stone from four to five carats is offered for sale, the price mounts into the thousands.

The color varies from the lightest rose tint to the deepest carmine; that color, however, which has the greatest value is known in commerce as pigeon's blood, and is the color of arterial blood, or of the very centre of the red ray of the solar spectrum.

The imperfections in rubies, as in all corundums, consists largely of clouds, milky spots, and cracks. A perfect ruby is rarely met with, and a stone possessing brilliancy and the true color, even if slightly imperfect is considered more valuable than a perfect ruby of an inferior color.

Rubies are found in Burma, Siam, Ceylon, Afghanistan, India, Brazil, Australia and the United States.

Where rubies and sapphires are met with it is said that gold is almost sure to be present.

Ruby spinels, garnets, hyacinths, red quartz, burnt Brazilian or rose topazes and red tourmalines are sometimes passed off for rubies.

The true ruby will scratch all of these stones readily, the spinel is lighter in specific gravity, and has generally a slight tinge of yellow, even in the most pronounced red specimens.

The ruby will turn green under the flames of a blow pipe, but when cooled off resumes its original color.

Garnet and topaz are easily scratched by the ruby, hyacinth (zircon) is heavier, and quartz and tourmaline lighter than the ruby.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Oct. 20, 1914

Dear Sir:

Black Opals are getting scarcer at the Australian diggings; we are specialists in this stone and have some important cuff link sets as well as other sizes.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W. S. Rothschild*  
President.

BUY FROM THE CUTTERS

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PORTLAND VASE

## ONYX (CONTINUED)

The acid carbonizes the honey or sugar which the stone has absorbed and gives it color. For the red stones, iron oxide is used, although many red stones are improved by a process of heating or burning.

Only the most porous parts of the stones, usually the dark layers, absorb the honey or sugar, and in this manner the contrast between the colored and the creamy or white layers is heightened. The more porous the stone the deeper the color. A variety of onyx having a white layer as a base, covered with a thin black layer and a second white layer over the black, giving the stone a bluish appearance, is called *onico* or *nicolo*—these layers are, however, generally wavy, and *nicolos* are therefore easily distinguished from the more even black and white onyx.

The art of coloring agates black was well known to the Romans, but it was not until the early part of the nineteenth century that the secret of this process was acquired in Oberstein, where the agate cutting industry has existed for hundreds of years.

About the time the Germans learned to enhance the color of the black and brown bands in the agates they also discovered that heat would greatly improve the red bands, and they finally succeeded in producing blue, green and brown through the use of various coloring processes.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, Nov. 5, 1914

Dear Sir:

Fine Aquamarines are in demand—we have a good stock of our own cutting and some rough for special orders.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*

President.

**BUY FROM THE CUTTERS**

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THE GRAND CAMEO OF FRANCE

## ENGRAVING

In the art of engraving precious stones the intaglio or depressed carving preceded the cameo or raised carving by thousands of years—record is made of intaglios of chalcedony and crystal, evidently used for seals, as far back as 7000 B. C.

The engraving of Cameos was introduced in the Greek period, and onyx was then first employed to produce the beautiful effects possible with layers of stone of different colors.

The "Grand Cameo of France," one of the largest Antique Cameos in existence, is in the National Library in Paris—it has five layers of onyx and represents the Glorification of Germanicus.

Many beautiful specimens of the gem engravers or Glyptic art, in the form of cameos, and intaglios for jewels and vases and miniature sculptures are preserved in museums and private collections. While cameos have not been fashionable for about twenty-five years, there are evidences that the interest of the public is being gradually reawakened in engraved gems. Unfortunately it takes many years to produce skilled gem engravers, and as the great body of skilled workmen who turned out the best work during the last cameo revival has passed away, it will require years of steady demand to induce young men of artistic capacity to take up the difficult work of becoming proficient in the gem engraver's art.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Dec. 5, 1914

Dear Sir:

We have some very fine emeralds and sapphires, well cut and brilliant; prices are reasonable for gem stones.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. D. Rothschild*

President..

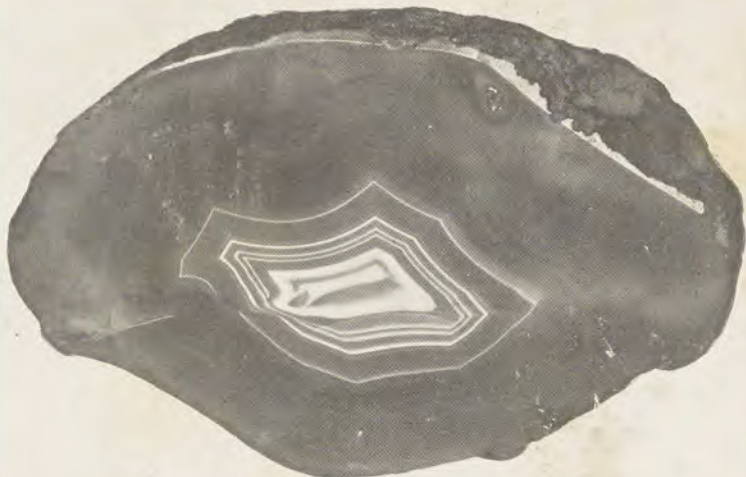
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FORTIFICATION AGATE

## JASPER

Jasper is an impure and opaque variety of chalcedony; the colors most commonly found being brown, yellow, red, green, black and blue.

Egyptian jasper or Egyptian pebble are names given to a variety found in Egypt and some other countries; usually brown with inner bands of lighter hue, approaching cream color, and sometimes showing dark bands with spots or markings.

A yellow and red jasper alternating with white stripes is found in Kansas, and a reddish jasper, sometimes called Texas agate, is supposed to come from that state.

Jasper is very abundant, and while it is sometimes used for jewelry, it is more generally used for ornaments and small stone objects sold at watering places.

## SILICIFIED WOOD

Silicified, agatized, petrified or fossilized wood is formed by the impregnation of the woody substance of plants with quartz.

The structure of the wood is often so well preserved that the nature of the original plant can be determined by a botanist.

These stones are sometimes cut to be mounted in jewelry, but more often they are used for large objects, as the fine markings can be displayed with the best effect in pedestals, table tops, etc.

Silicified wood is found in abundance in Germany, Colorado and California.

Copr. by American Gem & Pearl Co.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Jan. 5, 1915

Dear Sir:

Black opals are the most attractive of all gems. We carry a very important stock of these stones in fine specimen pieces and in regular qualities.

Very truly yours,

AMERICAN GEM & PEARL COMPANY.

*W.D. Rothschild*

President.

BUY FROM THE CUTTERS

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JADEITE AND NEPHRITE AXES

## JADE

The name jade has been indiscriminately applied to many compact or tough minerals, usually white or green in color, and embracing not only jadeite, chloromelanite and nephrite (the true jades), but also, among other minerals, saussurite, bowenite, californite, sillimanite or fibrolite, pectolite, plasma, williamsite, prehnite and agalmatolite or pagodite.

There is even uncertainty regarding the propriety of the use of the word "jade" in describing jadeite and nephrite, as these are two distinct minerals, although they have the same general appearance in color and texture.

The term "jade," covering both jadeite and nephrite, is, however, firmly established in both commerce and art, and it would serve no good purpose to try and displace this thoroughly accepted word, especially as no other descriptive term could possibly be found to answer as well.

Jade served prehistoric man from which to fashion implements and ornaments, and many axes, hammers, chisels and some rudely carved idols made from this exceptionally tough mineral have been found in different parts of the world, and especially in Europe among remains of the stone age.

Modern lapidaries, who experience the greatest difficulty in cutting and polishing jade, marvel at the skill and patience which must have been employed by primitive man in fracturing and grinding the wonderful jade weapons and tools which form part of many important collections. In China jade or yu shih (yu stone) has always been held in the greatest esteem, although the term yu actually embraces other jade-like minerals which are white to dark green in color.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Jan. 20, 1915

Dear Sir:

Aquamarines are especially suitable for medium priced effective jewelry.

We carry an important stock in various shapes and sizes and can cut special stones from the rough.

Very truly yours,

AMERICAN GEM & PEARL COMPANY,

*W D Rothschild*

President.

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BOWL OF JADEITE KORO

## JADE (CONTINUED)

The Chinese give jade the preference over every other stone, and as a result jade is a very important article of commerce in that country.

Canton handles most of the cut jade, and one street in that city is entirely given over to jade merchants. Remarkably high prices are paid for the finest jade in China, and a noted American merchant expert states that a small necklace of jade beads, each one measuring less than  $\frac{1}{4}$  inch in diameter, is valued as high as \$1,000 to \$3,000; a single green ring stone, \$200 to \$400, while thumb rings have been quoted as selling occasionally as high as \$15,000 to \$20,000 each. Translucent white, the color of fresh lard, is said to be the rarest of the jades, while yellow and green jades are prized according to their shades of color and condition of translucency.

Some emerald-green jade has been found translucent to almost transparent, and such stones approach the emerald in beauty and brilliancy.

Chinese lapidaries are extremely skillful in cutting, polishing and carving jade ornaments and in producing jade vessels, brush holders and objects of art, often ornamented with gold and precious stones.

The Heber Reginald Bishop collection of jades, in the Metropolitan Museum of Art, New York City, is one of the most important collections of rough, cut and carved jades in the world. Here can be seen and studied rough jadeite and nephrite, prehistoric weapons and tools, crudely carved idols and ornaments, wonderfully carved and jeweled bowls, vases, sword handles, bottles, flowers, ornaments—in short, a complete exposition of jade and of the most priceless objects fashioned therefrom. A visit to the special room in which this collection is housed will be of great value to any jeweler, and at the same time afford keen gratification to every lover of beautiful things.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Feb. 5, 1915

Dear Sir:

We have some fine black  
onyx rough from which we are cut-  
ting calibre and other shapes—  
try us for your special order  
work.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. S. Rothschild*

President.

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## JADE (CONTINUED)

### JADEITE

Jadeite and chloromelanite are members of the pyroxene or augite group of minerals—chloromelanite being a dark green or black variety, differing somewhat in composition from jadeite and containing about 10 per cent. of sesquioxide of iron, which slightly increases its specific gravity over that of jadeite.

This extremely tough fibrous mineral has prismatic cleavage, splintery fracture, hardness of 6.5 to 7, specific gravity 3.2 to 3.4 (chloromelanite 3.4 to 3.6), refraction double 1.66 and 1.68, lustre subvitreous, streak uncolored; it is opaque to translucent, and fuses easily to a blebby glass in an ordinary flame, coloring the flame a bright yellow.

Jadeite is composed principally of silica, alumina and soda.

### NEPHRITE

Nephrite is a tough, compact and uniformly fibrous and fine-grained tremolite or actinolite, belonging to the amphibole or hornblende mineral group.

It breaks with a splintery fracture, hardness 6 to 6.5, specific gravity 2.9 to 3.1, refraction double 1.606 and 1.632, lustre somewhat oily, is opaque to translucent, is not attacked by acids, and fuses with difficulty before the blowpipe to gray slag.

Nephrite is composed principally of silica, magnesia and lime.

Jadeite and nephrite occur in the following colors: marble or milk white, greenish and bluish white, white with green patches or spots, white veined with green, pale gray, yellow, brown, blue-green, leek-green, apple green, emerald green, pale amethystine, and, rarely, white with a tinge of red or rose red.

The same colors seem generally to be present in both jadeite and nephrite, in fact, it is claimed that sometimes both minerals are found to be combined in the same specimen, and while it is easy to distinguish these stones in the rough, principally through the great difference in their fusibility, it is more difficult to do so in cut and polished specimens, because the specific gravity and hardness of jadeite and nephrite often approach too closely to make these tests conclusive. There does not seem to be any difference in the commercial value of jadeite and nephrite where the two stones are identical in color and translucency.

Besides the names jadeite, chloromelanite and nephrite, jade is known as axe or hatchet stone. It is also called kidney stone because it is supposed to cure kidney diseases. In New Zealand it is called greenstone, and the Maoris also call it *pumau* or axe stone.

The Maoris carve jade into a grotesque form of the human figure, called "tiki," which is worn as an amulet.

Copr. by American Gem & Pearl Co.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Feb. 20, 1915

Dear Sir:

Our line includes all genuine stones excepting only diamonds. It will pay you to see our goods before making purchases.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY,

*W. D. Rothschild*  
President.

BUY FROM THE CUTTERS

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## JADE (CONCLUDED)

Jade is very resonant, and is sometimes used by the Chinese as material for a musical instrument. The stones so used are called sounding stones.

Chalchihuitl of the Aztecs, like the yu stone of the Chinese, probably included a number of minerals, notably jade and turquoise. The important jadeite mines in Burma are under the control of the British government, and were discovered about six hundred years ago. They produce large quantities of this valuable mineral. These mines are in Upper Burma, in the Mogoung district, on the upper course of the Uru river.

The native miners build fires on the surface of the stone, and the rapid cooling causes the jadeite to crack. It is then easily broken up and sold to Chinese buyers on the spot.

About 400,000 pounds of jadeite, mostly medium and poor quality, is quarried annually, the product being valued at about \$250,000. Fine material brings high prices, and there is a record of a block, measuring about a cubic yard, for which \$40,000 was refused. About \$500,000 worth of jade is supposed to be used in China annually.

Nephrite has been discovered in place in Alaska, at Jade mountain.

Other localities where jadeite or nephrite have been found are southern border of Turkestan, Eastern Siberia, New Zealand (Silesia in Germany, where a boulder weighing 4,718 pounds was discovered at Jordansmuhl and now forms part of the Bishop collection), New Guinea, New Caledonia, and possibly also Mexico, South America and India.

Some other jade-like minerals are bowenite (nephrite bowen); a green serpentine, somewhat resembling nephrite, but much lighter and somewhat softer, as its specific gravity is 2.59 to 2.78 and hardness 5.5 to 6.

Saussurite; a tough compact variety of zoisite, fracture splintery, hardness 6.5 to 7, specific gravity 3.0 to 3.4, translucent to opaque, colors from white to gray, bluish green and greenish gray.

Sillimanite or fibrolite; a densely compact mineral, perfect cleavage, fracture uneven, hardness 6 to 7, specific gravity 3.23 to 3.24, lustre vitreous, colors brown, grayish white, grayish green, transparent to translucent. This mineral was also employed to make weapons in Western Europe by prehistoric man.

Pectolite; massive, fine grained, tough, cleavage perfect, fracture uneven, brittle, hardness 5, specific gravity 2.68 to 2.78, color pale green resembling jade, used by Alaska Indians for implements.

Williamsite; an apple green variety of serpentine, hardness 4.5, specific gravity 2.59 to 2.64.

Prehnite; cleavage distinct, fracture uneven, hardness 6 to 6.5, specific gravity 2.80 to 2.95, subtransparent to translucent, oily green passing into white and gray, often fading on exposure to light.

Agalmatolite or pagodite; member of mica group—of amorphous compact texture, very soft, hardness 2 to 2.50, specific gravity 2.78 to 2.81, grayish, grayish green, brownish, yellowish. Chinese use this stone for carving into images, pagodas, etc. It is also called image or pagoda stone.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, June 5, 1915

Dear Sir:

We have some of these  
curious stones in stock in cut and  
rough--the prices are moderate.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*

President.

BUY FROM THE CUTTERS

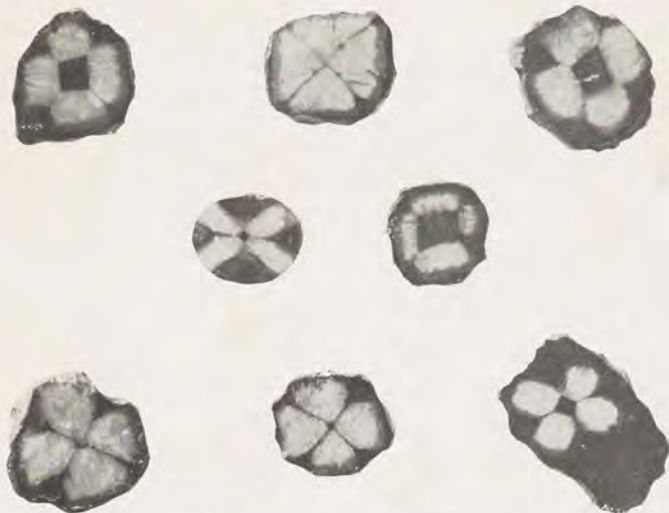
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SLICES OF CHIASTOLITE CRYSTALS

## ANDALUSITE (CONTINUED)

### (CHIASTOLITE)

Chiastolite or macle is a peculiar variety of andalusite, having its essential qualities except transparency, color and crystallization.

The name chiastolite or cross stone is derived from the Greek letter chi (represented by X), the Spaniards called the stone lapis crucifer and many of these stones were sold to the superstitious who wore them as amulets.

The cross formation is brought about by the penetration and replacement of the andalusite by dark clay slate varying in thickness in different parts and running centrally throughout the whole length of the crystal—the slate also penetrates the four corners of the crystal and thus a dark cross on a white, gray, brown, flesh colored or parti-colored background varying in size and shape, is the result.

A dissected chiastolite crystal presents some very attractive markings and as these stones take a good polish they are suitable for jewelry.

The black figures on these stones are crosses, squares, square outlines and combinations of these markings.

Chiastolite has about the same specific gravity as andalusite but is much softer, being only 5 to 5.5 in hardness.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card,

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, July 20, 1915

Dear Sir:

Have you tried the "Gem Company Service"? Our very large and complete stock enables us to fill practically all orders the day we receive them.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*

President.

BUY FROM THE CUTTERS

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## IDOCRASE

(VESUVIANITE)

Idocrase or Vesuvianite is a silicate of aluminium and calcium and when first discovered at Vesuvius was called volcanic scoria, brown jacinth, volcanic chrysolite, Vesuvian gem and Italian chrysolite.

This stone is not generally used for jewelry except in Italy, where the handsome green and brown varieties are cut and sold as "Vesuvian Gems."

Idocrase is composed of

Silica .....	37.75
Alumina .....	17.23
Sesquioxide of iron.....	4.43
Magnesia .....	3.79
Lime .....	37.35

Its hardness is 6.5; specific gravity 3.35 to 3.45; it is transparent to opaque, although the majority of the crystals are translucent to subtranslucent; its lustre is vitreous to greasy; it is doubly refractive, is attacked by acids and melts easily under the blowpipe.

The cleavage of idocrase is not distinct; its fracture sub-conchoidal to uneven and dichroism only moderately strong, the green idocrase showing pure green and yellowish green images.

Its colors are brown to black, yellow and green, sometimes red, blue and colorless—the colors commonly found are various shades of brown and green.

These stones are found in crystalline form principally in Ala Valley in the Mussa Alps and in the Wilui River in Siberia. The green crystals from Siberia are sometimes called wiluite and the brown crystals ejected from Mount Somma, the old crater of Mount Vesuvius, are known as vesuvianite. The blue variety of idocrase is also called cyprin, while the dark yellowish variety is sometimes known as xanthite.

Chrysolite, green garnet, quartz, tourmaline and other gems are somewhat similar to idocrase, but the differences in specific gravity, hardness and refraction will generally be sufficiently pronounced to determine the species.

## CALIFORNITE

Californite is a compact variety of idocrase sometimes resembling jade in color and very like jade in hardness, toughness, texture and specific gravity; it was first found in several localities in the Alps and was then mistaken for jade.

Its hardness is 6.5, exactly that of the crystalline idocrase and specific gravity 3.28 to 3.45. The color varies from olive to clear apple and grass green, sometimes gray and usually with bright green spots scattered through the stone—occasionally bluish green, yellowish green, white, and stones with a pink tint are found.

Some of this material is translucent and some subtranslucent to opaque.

Californite takes a good polish and as the dark green enclosures in the yellowish leek green specimens are generally more translucent than the surrounding mass the effect is beautiful.

Californite obtained its distinctive name because of its plentiful occurrence in California, and is classed as one of the native stones of that state.

Copr. by American Gem & Pearl Co.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Aug. 5, 1915

Dear Sir:

European cut stones of all kinds are becoming scarce but we are prepared to cut a limited quantity of so-called semi-precious stones from rough.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*

President.

BUY FROM THE CUTTERS

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FINE SPECIMEN ROUGH BENITOITE

## BENITOITE

Benitoite, a distinctive American gem, was discovered near the San Benito-Fresno County line in California in 1906.

These stones were first supposed to be sapphires because of their fine blue color, but a closer examination by experts and a chemical analysis disclosed a new gem composed of titano silicate of barium.

Benitoite is softer and less dense than sapphire, its hardness being  $6\frac{1}{4}$ — $6\frac{1}{2}$  and specific gravity 3.62—3.80.

This stone is very brilliant by daylight, its refractivity being somewhat higher than that of the sapphire, but under artificial light the benitoite becomes less intense in color and loses some of its brilliancy.

Its dichroism is very pronounced, the colors being dark purplish blue and lighter blue to colorless.

Benitoite ranges in color from deep violet tinted blue to purer blues of a lighter shade, some of the crystals being colorless.

This mineral is attacked by hydrofluoric acid, which is another easy test to distinguish it from sapphire, which is not affected by this acid. It dissolves in fused sodium carbonate and fuses under the blowpipe to transparent glass.

Gem blue benitoite has only been found in small quantities and sizes, the largest cut perfect stone weighing but seven carats, while most of the cut stones weighed less than two carats each; at present benitoites are uncommon and are therefore not dealt in commercially.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Sept. 5, 1915

Dear Sir:

Malachite and azurite  
can be used with effect in making  
artistic jewelry--we can cut  
shapes and sizes for special  
designs.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

BUY FROM THE CUTTERS

**American Gem & Pearl Co.**

14 CHURCH ST. NEW YORK  
Corner Cortlandt St.

London, 14 Holborn Viaduct    Paris, 39 Rue de Chateaudun

1c. Paid  
New York, N. Y.  
Permit No. 569





NEW MEXICO CHRYSOCOLLA, AM. MUS. NAT. HIST., N. Y.

## CHRYSOCOLLA

Chrysocolla is a hydrated silicate of copper found with other copper ores and often mingled in compact form with malachite, azurite and quartz.

Much of this material is beautiful because of its enamel-like texture and its color, which often rivals that of the finest blue turquoise; in fact it is sometimes difficult to distinguish chrysocolla from turquoise.

Chrysocolla was used by the ancients for painting, medicine, and principally as a solder for gold, the name signifying in Greek, gold glue.

The colors are mountain green, bluish green passing into sky blue, turquoise blue, and in the impure varieties, brown and black.

Chrysocolla is composed of

Silica .....	34.3
Copper oxide .....	45.2
Water .....	20.5
	<hr/>
	100.

Its hardness is 2—4, specific gravity 2—2.38, fracture conchoidal, translucent to opaque, lustre vitreous and sometimes earthy. Although this is a soft stone it sometimes has a chalcedony coating which makes it possible to cut very pretty, durable cabochon stones from this material.

Some of the best compact chrysocolla of a rich bluish green color mixed with quartz is found in copper mines in Michigan and Arizona.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Sept. 20, 1915

Dear Sir:

This stone is sometimes used for cabochon jewelry; we have some rough for special order work.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

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## MALACHITE (CONTINUED)

Malachite sometimes occurs in small needle like crystals, but the best cutting material usually occurs in nodular fibrous masses having the grained character which looks so well in the polished stones.

Malachite is not brittle and is easy to work; in fact it has often been worked on lathes.

The Greeks and Romans employed this mineral for gems, ornaments and amulets, as it was supposed to have the virtue of protecting children from danger.

A number of malachite columns found in the Temple of Diana at Ephesus are now part of the Sophia Church at Constantinople, while a more modern use of large masses of malachite is to be found in the beautiful columns of this mineral in the famous Isaac Church at Petrograd.

Large objects such as mantels, table tops and art objects, while seemingly of solid malachite, are often only veneered with thin sheets of this mineral cunningly joined together by the expert Russian workmen. The Russian Government has presented many fine objects made of malachite to friendly nations.

While found in copper mines in every part of the world, some of the largest masses of malachite were discovered in Russia, one block measuring nine by eighteen feet at the top and weighing half a million pounds.

Fine cutting material has been found in Australia and in Arizona.

## AZURITE

(CHESSYLITE)

Azurite, sometimes called chessylite, or chessy copper, because it is found at Chessy, near Lyons, France, also called blue malachite and blue carbonate of copper, is similar in composition to malachite, the constituent parts however being present in different proportions.

Azurite is composed of

Carbon dioxide.....	25.6
Cupric oxide .....	69.2
Water .....	5.2

100.

Its hardness is 3.5—4; specific gravity 3.77—3.88; it is translucent; lustre vitreous, almost adamantine, and has all shades of blue from azure to berlin blue; some has the fine blue color of lapis lazuli, but as it is softer than lapis lazuli and effervesces under hydrochloric acid it can readily be distinguished from that more valuable mineral.

Azurite is rarer than malachite and is found, generally in crystalline form, in copper mines.

## AZURITE-MALACHITE

(AZURMALACHITE)

This is a brecciated mineral consisting of azurite and malachite mixed in a mineral matrix, forming a very beautiful and interesting stone because of the contrast between the various shades of blue and green mingled in the same stone.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Oct. 5, 1915

Dear Sir:

Aquamarines and black opals are two of the "best sellers". Why not send us your order for these stones? We are headquarters.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. S. Rothschild*

President.

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NORWAY EPIDOTE, AM. MUS. NAT. HIST., N. Y.

## EPIDOTE

Epidote, though seldom used as a gem, is interesting because of its peculiar yellowish green (pistachio) color, rarely found in other minerals.

Its hardness is 6—7, specific gravity 3.25—3.50, lustre vitreous, refraction double, transparent to translucent and sub-translucent and is fusible before the blowpipe.

Its composition is

Silica .....	37.83
Alumina .....	22.63
Ferric oxide .....	14.02
Ferrous oxide .....	.93
Lime .....	23.27
Water .....	2.05

Colors are usually pistachio or yellowish green to brownish green, greenish black and black, sometimes clear red and pale yellow, also gray and grayish white.

One of the characteristics of epidote is its strong dichroism, which distinguishes this from other green and brown stones.

Green and brown tourmalines, though highly dichroic, are lighter, being but 3—3.1. The finest cutting crystals are found in Salzburg; some are found in Brazil and in the United States.

An epidote matrix, consisting of a mixture of grayish green epidote and reddish and gray minerals in compact, massive form, is used to make attractive low priced cabochon stones—a rose red variety of Zoisite, named thulite, after Thule, an ancient name of Norway, is also used in the same manner.

Piedmontite, a variety of epidote found principally in the Piedmontise Alps, sometimes occurs in splendid red crystals. These, when sufficiently transparent, are cut as gems, but they are seldom met with in commerce.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Oct. 20, 1915

Dear Sir:

Utahlite and epidote  
matrix sold very freely some  
years ago--we have some good  
rough left.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

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SLAB POLISHED UTAHLITE

## UT AHLITE

(VARISCITE, AMATRICE)

Utahlite, chlor utahlite, amatrice (signifying American matrix) is a composite stone generally containing variscite, wardite, chalcedony, chert and other allied minerals. Variscite is about 4. in hardness and wardite about 5., chalcedony and chert 7.; therefore a specimen of utahlite will vary in hardness according to the portion under examination.

Compact variscite sometimes resembles jade and some of the finer green material has been sold as such.

Wardite is green, bluish green and white, while chert is gray to yellowish and brown; brown limonite in stains is often present.

The utahlite or amatrice of commerce contains most or all of these minerals in various patterns and in brecciated and concentric markings and the results of the various combinations and shadings of colors, especially the fine greens, is very pleasing.

These stones are found in Utah in rounded or kidney shaped masses with a rough external coating enclosing the attractive green material.

Variscite is sometimes found free from matrix and occasionally in shades of blue, approximating greenish turquoise. It is softer than turquoise, but does not fade as many green turquoise do.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Nov. 5, 1915

Dear Sir:

Try us for fine  
emeralds, rubies, sapphires,  
alexandrites, pink topaz, cats-  
eyes and other fine gems. We have  
the right stones at the right  
prices.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

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PHENAKITE, S. MIGUEL DE PIRACICABA, MINAS GERAES

## PHENAKITE

Phenakite is a beryllium mineral and one of five precious stones containing the earth glucina as an essential constituent, the other four being beryl, chrysoberyl, euclase and beryllonite. This stone is composed of:

Silica .....	54.45
Glucina .....	45.55

Phenakite is 7.5 to 8 in hardness, has the specific gravity of 2.96 to 3; is doubly refractive, fracture conchoidal, brittle, imperfect in cleavage; is not attacked by acids and is infusible except with borax.

It is transparent to subtranslucent; dichroic and where the stones possess color the ordinary image is colorless while the extraordinary image is warm yellow or brown. The clear colorless crystals are very brilliant and when cut and polished often approximate the diamond in brilliancy especially when observed under artificial light.

The colors of phenakite are colorless to bright wine yellow, pale rose red and brown.

Phenakite is found in the emerald mines at Tokowaja in the Urals and most of this Russian gem material is cut and sold locally at very high prices. In 1908 some good cutting material of a waterclear hue was discovered at Sao Miguel de Piracicaba, Minas Geraes, Brazil, also some stones of a faint reddish tint.

Some fine specimens both in crystal and in cut form are in the mineralogical gallery of the British Natural History Museum. Phenakite has also been found in the United States (principally Colorado) and in France.

Phenakite owes its name to the frequency with which it has been mistaken for quartz because of the resemblance of the crystallization; hence the name, which in Greek signifies "deceiver."

The greater density of phenakite, its superior hardness and infusibility makes it possible to establish the difference between it and quartz while greater density of precious topaz readily differentiates that mineral.

Copr. by American Gem & Pearl Co.



# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, Dec. 20, 1915

Dear Sir:

If you have availed yourself of our service during the past year we thank you; if not, we trust we shall soon receive your trial order.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY

*W.D. Rothschild*

President.

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## PYRITE

### IRON PYRITES. INCA STONE. MARCASITE

Pyrite, iron pyrite and inca stone are different names for bisulphide of iron, one of the most widely distributed of the metallic compounds.

Marcasite is included by jewelers in the species pyrite and pyrite in the species marcasite because the two minerals have the same two elements and only differ in physical and chemical characters. Pyrite is composed of 53.3 sulphur and 46.7 iron, its luster is brilliantly metallic, hardness 6. to 6.5, specific gravity 4.95 to 5.10 (marcasite 4.85 to 4.90) cleavage indistinct (marcasite distinct); it is brittle, is completely decomposed by nitric acid and burns under blowpipe, giving off sulphur dioxide.

The color of pyrite is pale brass yellow, that of marcasite is pale bronze or grayish yellow. Some of this material consists of a coating of small bright crystals forming a sparkling surface of even height on the surface of black shale and very effective stones have been produced by shaping the shale into conventional sized stones for use in moderate priced jewelry.

Large polished plates probably used as mirrors have been found in ancient graves of the Incas, hence the name inca stone.

Pyrite and marcasite is found in all parts of the world—pyrite being the more abundant mineral.

## RUTILE

Rutile is a pure titanium oxide of common occurrence which does not as a rule possess sufficient beauty to permit its being cut. Some rare specimens, however, when cut, more closely resemble black diamonds than any other gems and are therefore valuable additions to the jeweler's stock.

Rutile is brittle, its fracture is subconchoidal to uneven, hardness 6. to 6.5, specific gravity 4.18 to 4.25, luster metallic to adamantine; refraction strongly double, and dichroism marked in transparent specimens; it is transparent to opaque.

The color of rutile is various shades of red passing through browns to black, sometimes yellowish bluish violet and rarely grass green.

Transparent quartz penetrated with needle-like crystals of rutile is called sagenite or crispite, while smoky quartz similarly penetrated is known as Venus hair stone, Thetis hair stone and fleches d'amour (Cupid's darts). Rutile is found in Norway, Sweden, Urals, Tyrol, France, Spain, Transylvania, Scotland, Ireland, Canada and the United States.

## OCTAHEDRITE

### ANATASE

Octahedrite or anatase is one of three forms of crystallized titanium oxide, which though too soft to be largely used as a gem, is highly valued because of its remarkable brilliancy, approximating that of the diamond.

Octahedrite is 5.5 to 6. in hardness, has the specific gravity of 3.82 to 3.95, perfect cleavage, conchoidal fracture, adamantine or metallic luster, strong double refraction, is brittle and transparent to nearly opaque.

The colors of octahedrite are various shades of brown passing into indigo blue and black, greenish yellow and pale green.

These stones occur in France, Germany, Norway, Wales, Brazil, and the United States.

Some very fine small, clear, crystals are found in the diamond-bearing gravels in Minas Geraes as well as in other parts of Brazil.

# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, Jan. 20, 1916

Dear Sir:

February is the "amethyst" month; we have a good stock of cut amethyst and can cut special orders from the rough.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*  
President.

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CASSITERITE, SCHLACKENWALD, BOHEMIA, AM. MUS. NAT. HIST., N. Y.

## CASSITERITE

Cassiterite is of slight importance as a gem stone as it is usually opaque and rarely found in transparent crystals suitable for cutting.

Cassiterite is an oxide of tin, transparent to opaque, 6 to 7 in hardness, with the specific gravity of 6.8 to 7.1, imperfect cleavage, fracture subconchoidal to uneven, brittle and with an adamantine luster.

This very heavy stone when perfectly transparent and pale in color may be cut into a very lustrous gem. The color of cassiterite is generally brown or black and sometimes yellow, red or white—the transparent crystals being usually very small, showing strong double refraction.

This stone is found in Ireland, Cornwall, Bohemia, Saxony, East Indies, Australia, Bolivia, Mexico and the United States.

## DIASPORE

Diaspore is a hydrated sesquioxide of aluminium rarely cut as a gem. The name signifying in Greek "to scatter" was given on account of its tendency to decrepitate before the blowpipe.

Its cleavage is eminent, fracture conchoidal, hardness 6.5 to 7, specific gravity 3.3. to 3.45, luster brilliant being pearly on the cleavage face and vitreous elsewhere, it is brittle, transparent to translucent, strongly doubly refractive and it is not attacked by acids.

The colors of diaspore are white, greenish gray, brown, yellowish, topaz yellow to colorless—sometimes violet blue in one direction, reddish plum in another and pale asparagus green in a third direction. Diaspore bears some resemblance to topaz but is softer and lighter. This stone is found in the Urals, Hungary, France, Sweden, Norway, Switzerland and the United States.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Feb. 20, 1916

Dear Sir:

Aquamarines are in vogue and ought to be in every well-balanced stock. We have a large line in all qualities. Aquamarine is the March birthstone.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

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## OBSIDIAN

### MOLDAVITE

Obsidian, lava, black lava glass, volcanic glass, glass agate, bottle-stone, Icelandic agate and markenite or mountain mahogany, are different names used by lapidaries and dealers to describe a glass produced by volcanic fire.

This glass is a melted lava containing various minerals, principally potash felspar.

Obsidian, like other glass, is perfectly amorphous, hence singly refractive.

Its fracture is conchoidal, luster vitreous to greasy, hardness 5. to 5.5, specific gravity 2.3 to 2.6; it is very brittle, takes a high polish, fuses before the blowpipe and like ordinary glass is attacked by hydrofluoric acid.

Obsidian occurs in many colors and some of this material makes very attractive low-priced ornamental stones for jewelry. These colors are black, gray, brown, yellow, red, green, blue, some banded with alternate layers of black and brown and brown and gray; this material is always deeply colored, and while thin pieces are transparent, most obsidian is either translucent or almost opaque.

Obsidian was well known to the ancients, who made mirrors, gem cylinders and other objects from it, while the more primitive races fashioned it into spear and arrow heads, knives and other tools and weapons.

Obsidian occurs in globules or masses and is found in Italy, Hungary, Iceland, Mexico, Siberia, Asia, Canada and the United States.

There is much confusion about moldavite, as some authorities believe it to be a green variety of obsidian; others contend that its origin is to be sought in meteorites, while a third view is that it is an artificial glass from the site of early glass factories in Moravia, where it was originally found and named moldavite.

The discovery, however, of rolled pebbles of moldavite in the gem gravels of Ceylon seems to indicate that the obsidian theory is the correct one.

Moldavite is also known as water chrysolite, pseudo chrysolite and bottlestone—it somewhat resembles peridot, but is softer and much lighter.

## HAEMATITE

Haematite, specular iron ore, iron glance and micaceous iron ore is a sesquioxide of iron found all over the world. This mineral is also called bloodstone, because minute crystals appear blood red in color by transmitted light.

Haematite is opaque, has the specific gravity 4.9 to 5.3, is 5.5 to 6.5 in hardness, is infusible, metallic in luster with a red streak and of red color when reduced to powder.

Its color is dark steel gray to iron black and it is composed of

Iron .....	70
Oxygen .....	30

Haematite was well known to the ancients and is supposed to be the "bloodstone" of Theophrastus. In fact it is still called blutstein by the Germans. The deep black variety is often cut to simulate black pearls and it has also been extensively used for ornaments, intaglios and cabochon shapes for jewelry.

The island of Elba, India, Brazil and the Alps are some places where this mineral is found.

## ILMENITE

Ilmenite is very similar in appearance to haematite, and is also used for ornamental purposes—the chief differences between the two minerals being the presence of titanium dioxide in ilmenite, and the occasional quality of magnetism which is never found in haematite.

Ilmenite occasionally has a black instead of a red streak and is susceptible of even a higher polish than haematite.

Ilmenite is found at Cumberland in the State of Rhode Island.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Mar. <sup>5</sup>~~20~~, 1916

Dear Sir:

Black opals continue to be the most fascinating of all gems and are sought by an ever increasing number of people of taste. This is one of our strong lines.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*  
President.

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LAZULITE, GRAVES MT. GA., AM. MUS. NAT. HIST., N. Y.

## LAZULITE

Lazulite, named from the Arabic, signifying the blue of heaven, has sometimes been called false lapis lazuli, but the only mineral for which it might properly be mistaken is turquoise, to which it is similar in composition.

This stone, which is very rare in the gem trade, is a hydrated phosphate related chemically to turquoise, but is both softer and heavier than the latter stone.

Lazulite is brittle, has indistinct prismatic cleavage, vitreous luster, is subtranslucent to opaque, 5. to 6 in hardness, has a specific gravity of 3. to 3.1, and is of a fine deep blue color, sometimes azure blue.

Lazulite occurs in Germany, Switzerland, Sweden, Brazil, India and the United States.

## HAÜYNNITE

Haüynite is a member of the sodalite group, named in honor of the celebrated French mineralogist Abbé Haüy.

This mineral is somewhat rare and is a complex silicate forming part of lapis lazuli.

Haüynite is subtransparent to translucent, is 5.5 to 6. in hardness, has the specific gravity of 2.4 to 2.5, distinct cleavage, vitreous to somewhat greasy luster and loses color before the blowpipe and fuses into porous glass.

The colors are indigo, sky and greenish blue, asparagus green, gray green, red, yellow and black.

Haüynite occurs in Italy, Azores, Siberia, Auvergne, Scotland and the United States.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Mar. 20, 1916

Dear Sir:

If you have difficult cutting orders, try us. We have a large stock of all kinds of rough and cut stones to draw upon.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. S. Rothschild*  
President.

BUY FROM THE CUTTERS

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DIOPSIDE, KIRGHISE STEPPES, SIBERIA, AM., MUS. OF NAT. HIST. N.Y.

## DIOPSIDE

Diopside, emerald copper, copper emerald, emerald malachite or emeraldine is a hydrous silicate of copper of deep emerald green color which is found in small imperfectly transparent crystals, but is rarely cut as a gem because of its lack of hardness and transparency.

Its specific gravity is 3.28 to 3.35, hardness 5, cleavage perfect, fracture conchoidal, luster vitreous, refraction double, pleochroism weak and it is brittle.

Diopside is found in Siberia, Hungary, French Congo, Chili and the United States.

## APATITE

Apatite, asparagus stone or moroxite, is a phosphate of calcium containing chlorine and fluorine, and while this mineral is harder than fluorite it is too soft for extensive use in jewelry.

Apatite is, however, interesting to the jeweler because of its range of colors, and the danger of confusing this stone with harder gem stones of like colors.

The specific gravity of apatite is 3.17 to 3.23, its hardness 5, luster vitreous inclining to resinous, cleavage imperfect, fracture conchoidal and uneven; it is transparent to opaque, slightly dichroic and is weakly doubly refractive.

The colors are sea green, bluish green, deep green (known as moroxite); pale yellow (known as asparagus stone); sky blue, violet blue, gray, rose red, flesh red, brown, lilac, violet and sometimes white.

Very fine pink and violet crystals are found in the tourmaline locality at Auburn, Maine, on a hill called Mount Apatite.

Apatite is also found in Saxony, Urals, Tyrolean Alps and Norway. Fine crystals have been found in Canada weighing hundreds of pounds.

Copr. by American Gem & Pearl Co.

# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, Apr. 5, 1916

Dear Sir:

We carry practically all precious and so-called semi-precious stones, excepting only diamonds, and make it a point to try and fill orders correctly the day they are received.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*  
President.

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## HYPERSTHENE

Hypersthene, bronzite, bastite, diallage and enstatite are members of the pyroxene or augite group of minerals which, though never sufficiently transparent for facetting, exhibit a peculiar metallic sheen on one particular face which when cut cabochon results in effective looking stones of the labradorite type.

Hypersthene, Labrador hornblende or paulite, the most important of this group, is translucent to opaque, has the specific gravity of 3.4 to 3.5, is 5. to 6. in hardness, has perfect cleavage, uneven fracture, is brittle, is partially decomposed by hydrochloric acid and fuses easily before the blowpipe.

The colors of hypersthene are dark brown, red, brownish, green and grayish black—when viewed in one certain direction the color is a magnificent copper red, a light brown or a golden yellow, while in other directions it generally exhibits a greenish play of color.

Hypersthene is found with labradorite on the Island of St. Paul, Labrador, and in other localities.

## BRONZITE

Bronzite, so named because of the bronze-like flash of some of this material, is in reality hypersthene containing about 12 to 14 per cent more iron.

Its specific gravity is 3.1 to 3.3, hardness 5.5, cleavage easy, fracture uneven; it is translucent to opaque, its luster on cleavage surfaces is pearly to vitreous and it is brittle. The colors of bronzite are bronze yellow, grayish green to olive green and brown.

Some stones have a fibrous structure and when carefully cut they resemble the catseye.

Bronzite is found in Bavaria, Moravia, Styria, Tyrol, the United States and other localities.

## BASTITE

Bastite or schiller spar, is altered enstatite, mineralogically identical with bronzite, but leek to olive green and brown in color.

Its specific gravity is 2.5 to 2.7, hardness 3.5 to 4., has a bronze-like luster or "schiller" on the chief cleavage face and was originally found at Baste in the Harz Mountains, hence its name.

## DIALLAG

Diallage, less closely related to hypersthene, is near diopside in composition, often containing a large amount of alumina.

Its specific gravity is 3.20 to 3.35, hardness 4., luster pearly, sometimes metalloid and resembling bronzite, and its colors are greenish gray to bright grass green, deep green and brown.

Diallage is found in Silesia, the Alps, Italy and the Isle of Skye.

## ENSTATITE

Enstatite is practically bronzite with little or no iron, and while its luster is not as strongly metallic as that of bronzite, it is more pearly.

Its specific gravity is 3.1 to 3.3, hardness 5.5, cleavage easy, fracture uneven; it is brittle, translucent to nearly opaque, infusible before blowpipe, and is perceptibly dichroic, the twin colors being yellowish and green.

Its colors are grayish white, yellowish white, and greenish white to olive green and brown.

Enstatite is found with bronzite and a green variety is a common constituent of peridotites accompanying the diamond of South Africa—some of this green material has been cut and sold as green garnet.



# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, May 5, 1916

Dear Sir:

Emerald is the birthstone for May. Should you have any calls for genuine emeralds from medium quality to the finest gems we shall be glad to hear from you.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*

President.

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CUT CHALCHIHUITL, OR AZTEC STONE

## CHALCHIHUITL AZTEC STONE

Calamine, chalchihuitl, or aztec stone, is a hydrous silicate of zinc which has been used to a certain extent for ornamental purposes.

Blue, gray and green translucent calamine with curved and banded markings has been commercially called chalchihuitl, or aztec stone, although the name chalchihuitl has long been given to other blue and green minerals notably turquoise and jadeite.

Its specific gravity is 3.4 to 3.5, hardness 4.5 to 5., its fracture is uneven to sub-conchoidal, cleavage perfect, luster vitreous to pearly, and it is transparent to translucent.

Its colors are white, gray, bluish, greenish, yellowish, also violet and brown.

Calamine is found in Mexico, Europe and the United States.

## SMITHSONITE BONAMITE

Smithsonite is a zinc carbonate, named after John Smithson, the founder of the Smithsonian Institute at Washington.

The apple green variety sometimes resembles chrysoprase, but is much inferior to that stone on account of lack of hardness—this green smithsonite when cut has been sold under the name of bonamite.

Smithsonite has a specific gravity of 4.30 to 4.45, is 5. in hardness, has a perfect cleavage, uneven fracture and a luster vitreous inclining to pearly—it is brittle and sub-translucent to translucent.

The colors are green, grayish, brownish, white and blue.

Smithsonite is found in New Mexico, Siberia, Hungary, Spain, Greece, England and elsewhere.

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# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, June 5, 1916

Dear Sir:

Aquamarines are enjoying popularity all over the country—we have some very fine stones at reasonable prices cut in our New York shop from rough which we have imported from the mines.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*

President.

**BUY FROM THE CUTTERS**

**American Gem & Pearl Co.**

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FLUORITE CRYSTALS

## FLUORITE

While hardness or durability is one of the most important qualities of a gem stone, some soft minerals, by reason of their beauty and adaptability for ornamental purposes, are sometimes effectively employed in jewelry.

In addition, therefore, to some of the comparatively soft stones recently described in this gem card series, it may be serviceable to the trade to briefly refer to some other stones which, though rarely used, may nevertheless come under the notice of the jeweler.

Fluorite or fluor spar, though much too soft for a gem stone, is nevertheless sometimes cut and worn in jewelry because of its beautiful colors.

This great range of colors embraces green, red, pink, blue, violet, yellow, brown and sometimes colorless, and the cut stones are often known as false emerald, false ruby, false sapphire, false amethyst and false topaz.

Fluorite is composed of

Fluorine .....	48.9
Calcium .....	51.1

100.

Its hardness is 4., specific gravity 3.10 to 3.25, luster vitreous, it is transparent to sub-translucent, has perfect cleavage, is brittle and gives out a phosphorescent light under even a low temperature.

Fluorite is widely distributed over the earth, some of the finest crystals, however, being found in England.

## NATROLITE

Natrolite is a hydrated silicate of sodium and aluminium and, like thomsonite, belongs to the zeolite group.

Its hardness is 5. to 5.5, specific gravity 2.2 to 2.5, fracture uneven, luster vitreous, inclining to pearly, and it is transparent to translucent.

The stones cut as gems are the translucent variety, which is found in fibrous divergent or radiated masses, with colors alternating yellow, yellowish, reddish and grayish in concentric bands.

Natrolite is found in Germany and in the United States.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, July 5, 1916

Dear Sir:

This is the ruby month and although fine rubies are scarce we have a few which are good in color and reasonable in price.

Very truly yours,  
AMERICAN GEM & PEARL COMPANY

*W D Rothschild*  
President.

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AMBER MINE NEAR KÖNIGSBERG, GERMANY

## AMBER

Amber, succinite, succinium, electrum, lyncurium and northern gold are various names employed at different times to designate a mineral of vegetable origin which claims the highest antiquity among precious stones used for personal adornment.

It was the one precious stone known to the early Greeks, who called it electrum on account of its electrical susceptibilities, and it is the only stone mentioned by the poet Homer.

The Greeks bought worked amber from the Phoenicians, who sailed to the Baltic for the sole purpose of obtaining this mineral.

That it was highly valued is proven by the satirical observation of Pliny, who states that the price of a figurine in amber, however small, exceeded that of a healthy living slave. The Romans called it succinium, signifying "juice," as they concluded, from the insects and plants inclosed in amber, that it was a vegetable juice.

Many wonderful qualities were claimed for amber. It was supposed to cure ague, keep off attacks of erysipelas from a person subject to them and defend the throat of the wearer against chills. The warmth of amber when in contact with the skin and its electrical properties are adduced as a good reason for its protective and remedial qualities.

Amber is the fossilized resin of an extinct species of either the pine or fir tree, known for want of a better name as the amber tree or pinites succinifer.

Amber is composed of

Carbon .....	78.94
Hydrogen .....	10.53
Oxygen .....	10.52
Sulphur .....	.05

Its hardness is 2. to 2.5, specific gravity 1.050 to 1.096; luster resinous, streak white; it is transparent to translucent, often clouded, sometimes fluorescent and is negatively electrified by friction.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, July 20, 1916

Dear Sir:

Our specialty is fine gem material perfectly cut—the result is always pleasing. Try us when you have a call for a fine stone; we also carry medium grades.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*M. S. Rothschild*  
President.

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AMBER WITH INSECT INCLUSION

Enlarged Photo

Am. Mus. Nat. Hist., N. Y.

## AMBER CONCLUDED

Amber is a very bad conductor of heat, being perceptibly warm to the touch, and for this reason can be readily distinguished from glass imitations, which are also much heavier than genuine amber.

Amber begins to soften at 150 degrees and finally melts at 250 to 300 degrees. This enables dealers to produce a large quantity of an inferior amber called ambroid by the fusion under pressure of small, comparatively worthless, pieces of amber into large compact cakes.

Ambroid is used where a cheaper material than the natural amber is required, but, while it is a good substitute for many purposes, it lacks the brilliancy and fine wearing qualities of the natural stone.

While the color of amber is principally different shades of yellow it is also found in reddish, brownish and whitish colors.

Over one hundred and fifty different species of insects have been found entombed in amber, many of them identical with present-day insects, while most of the plants imbedded in amber are different from the vegetation now found in the amber regions.

Burmese amber or burmite differs from true amber or succinite, inasmuch as it does not contain succinic acid.

Most of the amber found is used for smoker's articles, but important quantities are cut and carved into beads and distinctive jewelry and are sold in all quarters of the earth.

While amber occurs in England, Galicia, Moravia, Burma, Urals, Norway, Roumania, Sicily, Switzerland, France, Denmark, Sweden, the Russian Baltic Provinces and the United States, the most abundant and important supply is from the coast of the Baltic from Danzig, West Prussia, to Memel, East Prussia. The amber industry is an ancient one and was formerly followed by fishermen, who were the owners of all the amber they found.

Amber fishing and mining, however, became for the most part a government monopoly and the government revenue from this mineral rose as high as \$788,000.00 in 1910.

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# American Gem and Pearl Card.

**FROM MINES TO MARKET**

**EVERYTHING BUT DIAMONDS**

New York, Aug. 5, 1916

Dear Sir:

We have a large line of peridots the August birthstone in the Egyptian and American varieties. We can cut special shapes and sizes from the rough.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. S. Rothschild*  
President.

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## JET

Jet, black amber, fossil coal or fossilized wood, is a black variety of "brown coal," and is one of the oldest minerals of vegetable origin employed for jewelry. The hardness of genuine jet is 3. to 4., its specific gravity 1.3 to 1.4, luster greasy, structure compact, dense and homogeneous, fracture conchoidal and color a fine, deep, velvety black.

Jet is undoubtedly the gagate of Dioscorides and Pliny, its ancient name evidently being derived from the River Gages in Lycia, Asia Minor, where it was discovered. The Romans valued it chiefly for its supposed medicinal qualities and its power to avert certain evils. It was considered by them a sovereign remedy for many ills.

Jet must have been worked on lathes by the early Britons before the Roman conquest, as large jet rings have been discovered among British remains.

The manufacture of jet was a very important industry in France during the Revolution and in 1786 upwards of 1200 workmen were engaged in the manufacture of jewelry and ornaments from jet in the Department of Aube. In time, however, this industry fell into decay. The same fate followed the industry in Germany, where fine deposits were found in the Swabian Alps, but notwithstanding government encouragement and support, it was impossible to establish the jet cutting industry on a basis to compete successfully with the English manufacturers.

The famous English jet cutting works are situated at Whitby, a place on the Yorkshire coast, and within a few miles of the rich deposits of hard jet which has made Whitby the home of the world's jet industry. Two qualities of jet are worked here; the fine, hard, native jet and a softer, cheaper quality imported from Spain.

Cannel or candle coal is also worked into ornaments, producing an inferior article which has a grayish or brownish color, is more brittle and does not take the fine, high polish of genuine jet.

Jet furnishes a suitable material for the manufacture of mourning jewelry and ornaments, as it can readily be worked with file, knife, graver and lathe into artistic shapes and its light weight makes it particularly adaptable for large chains and other jewelry.

Notwithstanding the comparative cheapness of jet, this mineral is largely imitated in various ways, glass being of course the simplest and most satisfactory imitation; in fact, the trade name "jet" is generally employed in describing millinery and dress ornaments made of black glass, and this often without the slightest intention of deceiving the purchaser.

Genuine black onyx is also very much like jet in appearance, but as it is very much heavier and harder it is thus readily distinguished.

Vulcanite, another imitation of jet, is molded, and therefore always lacks the fine lines of the cut jet.

Jet is a very poor conductor of heat, and feels warm to the touch. It is thus readily distinguished from other minerals such as black onyx, black tourmaline, and from glass and obsidian.

Jet occurs in England, France, Spain, Germany and the United States. It also sometimes occurs on the Baltic with amber, and is there called black amber.

Cope, by American Gem & Pearl Co.

# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Aug. 20, 1916

Dear Sir:

Catseyes, alexandrites  
and other rare stones are in de-  
mand from time to time—let us hear  
from you when you require such  
stones.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W D Rothschild*  
President.

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EAST INDIAN CORAL

## CORAL

Red precious coral, *corallium rubrum*, noble coral and *corallium nobile*, are different names for a marine production which the orientals have always classed among precious stones notwithstanding its animal origin.

Coral was employed in the arts in ancient days and according to the prophet Ezekiel it was a valuable article of merchandise with the Tyrians who imported it from Syria.

The Greeks consecrated coral to Jupiter and Apollo and they had a tradition that it was formed from the blood of Medusa, whose head Perseus hung on a tree near the sea, the coagulated drops of blood of which were transferred to the water by the nymphs to become coral.

Pliny writes that the demand for coral was so great in India that it was rarely seen in the country in which it was found.

Coral is formed by a lowly organized animal, the coral polyp, whose calcareous habitations resemble branches of trees.

These red stems or branches are covered with a layer of living material known to zoologists as coenosarc, and imbedded in this material are great colonies of milk white polypi, who build up the coral stems until they are sometimes over twelve inches long and an inch thick.

Precious red coral is largely found in the Mediterranean Sea and its inlets and is taken at various depths ranging from ten to nine hundred feet; the best coral is said to be found at two hundred and fifty to six hundred feet and is recovered by diving both with and without diving apparatus and by the employment of a heavy drag which is equipped with a number of small nets to catch or entangle the coral which is broken from the rocks.

This fishing is carried on principally by Italians, as many as 460 boats having been employed in the fishery and six thousand persons in the cutting, polishing, drilling and carving of this popular gem.

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# American Gem and Pearl Card.

FROM MINES TO MARKET

EVERYTHING BUT DIAMONDS

New York, Jan. 11, 1917

Dear Sir:

We trust that the past year  
has exceeded your expectations and  
wish you a Happy and most Prosper-  
ous New Year.

Very truly yours,

AMERICAN GEM & PEARL COMPANY

*W. D. Rothschild*

President.

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We were highly gratified to receive so many favorable responses to our "American Gem and Pearl Card" referendum and have therefore decided to complete the subject of Precious Stones and Pearls by the publication of a number of cards on Pearls, to be followed by a full discussion of Diamonds. The first card on Pearls will probably appear in the course of about six weeks and the other cards will then follow semi-monthly.

The great war has brought about a scarcity in precious and so-called semi-precious stones, and its continuance into the new year makes it almost certain that desirable goods will become even less plentiful. We are drawing our rough stones from primary sources, and although gem mining has greatly fallen off in all parts of the world we are occasionally receiving lots of good rough which we cut in our New York shop. Having eliminated the European middleman and his profit, we are in a position to furnish perfectly cut stones at reasonable prices. We specialize in all kinds of precious and so-called semi-precious stones and carry a good stock of fine emeralds, rubies, sapphires, catseyes, alexandrites, star sapphires, star rubies, precious topaz, kunzites, aquamarines, tourmalines, black opals, regular opals, etc., etc.; in fact, practically everything in precious stones, excepting only diamonds.

If you are a customer we thank you for past business and express the hope that our relations will continue to be pleasant and profitable to both of us. If you are not a customer we will be very glad to receive a trial order, with the feeling that our prompt and reliable service will induce you to become a regular customer.

Yours very truly,

**AMERICAN GEM & PEARL COMPANY.**

# JADE

## FACTS CONCERNING AN ORIENTAL STONE OF RARE BEAUTY AND INCREASING POPULARITY

### JADE

The name jade has been indiscriminately applied to many compact or tough minerals, usually white or green in color, and embracing not only jadeite, chloromelanite and nephrite (the true jades), but also, among other minerals, saussurite, bowenite, californite, sillimanite or fibrolite, pectolite, plasma, williamsite, prehnite and agalmatolite or pagodite.

There is even uncertainty regarding the propriety of the use of the word "jade" in describing jadeite and nephrite, as these are two distinct minerals, although they have the same general appearance in color and texture.

The term "jade," covering both jadeite and nephrite, is, however, firmly established in both commerce and art, and it would serve no good purpose to try and displace this thoroughly accepted word, especially as no other descriptive term could possibly be found to answer as well.

Jade served prehistoric man from which to fashion implements and ornaments, and many axes, hammers, chisels and some rudely carved idols made from this exceptionally tough mineral have been found in different parts of the world, and especially in Europe among remains of the stone age.

Modern lapidaries, who experience the greatest difficulty in cutting and polishing jade, marvel at the skill and patience which must have been employed by primitive man in fracturing and grinding the wonderful jade weapons and tools which form part of many important collections. In China jade or *yu shih* (*yu* stone) has always been held in the greatest esteem, although the term *yu* actually embraces other jade-like minerals which are white to dark green in color.

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BOWL OF JADEITE KORO

## JADE (CONTINUED)

The Chinese give jade the preference over every other stone, and as a result jade is a very important article of commerce in that country.

Canton handles most of the cut jade, and one street in that city is entirely given over to jade merchants. Remarkably high prices are paid for the finest jade in China, and a noted American merchant expert states that a small necklace of jade beads, each one measuring less than  $\frac{1}{4}$  inch in diameter, is valued as high as \$1,000 to \$3,000; a single green ring stone, \$200 to \$400, while thumb rings have been quoted as selling occasionally as high as \$15,000 to \$20,000 each. Translucent white, the color of fresh lard, is said to be the rarest of the jades, while yellow and green jades are prized according to their shades of color and condition of translucency.

Some emerald-green jade has been found translucent to almost transparent, and such stones approach the emerald in beauty and brilliancy.

Chinese lapidaries are extremely skillful in cutting, polishing and carving jade ornaments and in producing jade vessels, brush holders and objects of art, often ornamented with gold and precious stones.

The Heber Reginald Bishop collection of jades, in the Metropolitan Museum of Art, New York City, is one of the most important collections of rough, cut and carved jades in the world. Here can be seen and studied rough jadeite and nephrite, prehistoric weapons and tools, crudely carved idols and ornaments, wonderfully carved and jeweled bowls, vases, sword handles, bottles, flowers, ornaments—in short, a complete collection of jade and of the most priceless objects fashioned therefrom. It is housed in a special room in which this collection is housed will be of great value to any jeweler, and at the same time afford keen gratification to every lover of beautiful things.

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## JADE (CONTINUED)

### JADEITE

Jadeite and chloromelanite are members of the pyroxene or augite group of minerals—chloromelanite being a dark green or black variety, differing somewhat in composition from jadeite and containing about 10 per cent. of sesquioxide of iron, which slightly increases its specific gravity over that of jadeite.

This extremely tough fibrous mineral has prismatic cleavage, splintery fracture, hardness of 6.5 to 7, specific gravity 3.2 to 3.4 (chloromelanite 3.4 to 3.6), refraction double 1.66 and 1.68, lustre subvitreous, streak uncolored; it is opaque to translucent, and fuses easily to a blebby glass in an ordinary flame, coloring the flame a bright yellow.

Jadeite is composed principally of silica, alumina and soda.

### NEPHRITE

Nephrite is a tough, compact and uniformly fibrous and fine-grained tremolite or actinolite, belonging to the amphibole or hornblende mineral group.

It breaks with a splintery fracture, hardness 6 to 6.5, specific gravity 2.9 to 3.1, refraction double 1.606 and 1.632, lustre somewhat oily, is opaque to translucent, is not attacked by acids, and fuses with difficulty before the blowpipe to gray slag.

Nephrite is composed principally of silica, magnesia and lime.

Jadeite and nephrite occur in the following colors: marble or milk white, greenish and bluish white, white with green patches or spots, white veined with green, pale gray, yellow, brown, blue-green, leek-green, apple green, emerald green, pale amethystine, and, rarely, white with a tinge of red or rose red.

The same colors seem generally to be present in both jadeite and nephrite, in fact, it is claimed that sometimes both minerals are found to be combined in the same specimen, and while it is easy to distinguish these stones in the rough, principally through the great difference in their luster, it is more difficult to do so in cut and polished specimens, because the specific gravity and hardness of jadeite and nephrite often approach too closely to make these tests conclusive. There does not seem to be any difference in the commercial value of jadeite and nephrite where the two stones are identical in color and translucency.

Under the names jadeite, chloromelanite and nephrite, jade is known as the hachet stone. It is also called kidney stone because it is supposed to cure kidney diseases. In New Zealand it is called greenstone, and the Maori also call it pumanu or axe stone.

The Maori carve jade into a grotesque form of the human figure, called "tiki," which is worn as an amulet.

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## JADE (CONCLUDED)

Jade is very resonant, and is sometimes used by the Chinese as material for a musical instrument. The stones so used are called sounding stones.

Chalchihuitl of the Aztecs, like the *yu* stone of the Chinese, probably included a number of minerals, notably jade and turquoise. The important jadeite mines in Burma are under the control of the British government, and were discovered about six hundred years ago. They produce large quantities of this valuable mineral. These mines are in Upper Burma, in the Mogoung district, on the upper course of the Uru river.

The native miners build fires on the surface of the stone, and the rapid cooling causes the jadeite to crack. It is then easily broken up and sold to Chinese buyers on the spot.

About 400,000 pounds of jadeite, mostly medium and poor quality, is quarried annually, the product being valued at about \$250,000. Fine material brings high prices, and there is a record of a block, measuring about a cubic yard, for which \$40,000 was refused. About \$500,000 worth of jade is supposed to be used in China annually.

Nephrite has been discovered in place in Alaska, at Jade mountain.

Other localities where jadeite or nephrite have been found are southern border of Turkestan, Eastern Siberia, New Zealand (Silesia in Germany, where a boulder weighing 4,718 pounds was discovered at Jordanamuhl and now forms part of the Bishop collection), New Guinea, New Caledonia, and possibly also Mexico, South America and India.

Some other jade-like minerals are bowenite (nephrite bowen); a green serpentine, somewhat resembling nephrite, but much lighter and somewhat softer, as its specific gravity is 2.59 to 2.78 and hardness 5.5 to 6.

Saundersite; a tough compact variety of zoisite, fracture splintery, hardness 6.5 to 7, specific gravity 3.0 to 3.4, translucent to opaque, colors from white to gray, bluish green and greenish gray.

Sillimanite or fibrolite; a densely compact mineral, perfect cleavage, fracture uneven, hardness 6 to 7, specific gravity 3.23 to 3.24, lustre vitreous, colors brown, grayish white, grayish green, transparent to translucent. This mineral was also employed to make weapons in Western Europe by prehistoric man.

Pectolite; massive, fine grained, tough, cleavage perfect, fracture uneven, brittle, hardness 5, specific gravity 2.65 to 2.78, color pale green resembling jade, used by Alaska Indians for implements.

Williamite; an apple green variety of serpentine, hardness 4.5, specific gravity 2.59 to 2.64.

Prehnite; cleavage distinct, fracture uneven, hardness 6 to 6.5, specific gravity 2.80 to 2.95, subtransparent to translucent, oily green passing into white and gray, often fading on exposure to light.

Agalmatolite or pagodite; member of mica group—of amorphous compact texture, very soft, hardness 2 to 2.50, specific gravity 2.78 to 2.81, grayish, grayish green, brownish, yellowish. Chinese use this stone for carving into images, pagodas, etc. It is also called image or pagoda stone.

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